Amendments to the Claims

This listing of claims will replace all prior versions and listing of claims in the application.

1-2. (Canceled)

3. (Currently amended) An elevator safety braking system comprising:

an elevator brake wedge [~~comprising~~] **consisting essentially of**:

a top surface;

a bottom surface, the bottom surface generally parallel with the top surface and located below the top surface;

an inclined surface intersecting the top surface at an obtuse angle and intersecting the bottom surface at an acute angle;

a rail-facing surface intersecting the top and bottom surfaces at approximately a right angle; and

a single shoulder, the shoulder located near the top surface and extending normally away from the rail-facing surface, the shoulder for absorbing shear loads from an elevator brake pad;

a brake pad backing plate, the brake pad backing plate having a pad-mounting surface for mounting a brake pad and a wedge-mounting surface for engaging the rail-facing surface of the elevator brake wedge, the brake pad backing plate mounted along the rail-facing surface of the elevator brake wedge below the shoulder;

a carbon/metallic composite brake pad for engaging a steel elevator guide rail comprising:

a mounting backing surface for engaging the backing plate, and

a sliding surface for engaging an elevator guide rail, the sliding surface having a burnished finish, the sliding surface also having an approximately constant coefficient of friction when sliding against the rail during an initial slide,

wherein the coefficient of friction for subsequent slides between subsequent braking applications remains relatively constant.

4. (Currently amended) An elevator safety brake pad assembly **[~~comprising~~] consisting essentially of**:

an elevator brake wedge, the elevator brake wedge having a rail-facing surface and a single shoulder, the shoulder located near a top surface of the brake wedge and extending normally away from the rail-facing surface, the shoulder for absorbing shear loads from an elevator brake pad;

a brake pad backing plate, the brake pad backing plate having a pad-mounting surface for mounting an elevator safety brake pad and a wedge-mounting surface that engages the elevator brake wedge along the rail-facing surface; and

a carbon/metallic composite brake pad for engaging an elevator guide rail, the carbon/metallic composite brake pad being mounted to the backing plate and comprising a sliding surface for engaging an elevator guide rail, the sliding surface having a burnished finish.

5. (Original) The elevator brake pad assembly of claim 4, wherein the sliding surface, when engaging an elevator guide rail, has an average coefficient of friction for a fixed load during a slide approximately defined by the following equation:

$$\mu = 1.258 * v^{-0.2687}$$

wherein v = the velocity of the brake pad assembly when it first engages the elevator guide rail.

6-7. (Canceled)

8. (Previously presented) The elevator safety braking system of claim 3, wherein the burnished finish on the sliding surface of the brake pad is a laser burnished finish.

9. (Previously presented) The elevator safety braking system of claim 3, wherein the coefficient of friction (μ) between the rail and the carbon/metallic composite brake pad is approximately defined approximately by the following equation:

$$\mu = 1.258 * v^{-0.2687}$$

for an elevator having a load of approximately 15,000 lbs,

wherein v = the velocity of the brake pad assembly when it first engages the elevator guide rail.

10-11. (Canceled)

12. (Previously presented) The elevator brake pad assembly of claim 4, wherein, when the brake pad engages an elevator rail during a single slide, the coefficient of friction between the rail and the pad remains relatively constant.

13. (Previously presented) The elevator brake pad assembly of claim 12, wherein, when the brake pad engages the elevator rail for a plurality of successive slides, the friction pad has an average per slide coefficient of friction that remains relatively constant.

14-16. (Canceled)

17. (Previously presented) The elevator safety brake pad assembly of claim 4, wherein the brake pad's coefficient of friction remains relatively constant during a single slide along the elevator guide rail.

18. (Previously presented) The elevator safety brake pad assembly of claim 17, wherein the brake pad has a relatively constant average coefficient of friction for multiple slides having similar conditions along the same guide rail.

19. (Previously presented) The elevator safety brake pad assembly of claim 18, wherein the brake pad contains carbon.

20. (Previously presented) The elevator safety brake pad assembly of claim 19, wherein the brake pad is fastened to the brake wedge with mechanical fasteners and wherein the shoulder is a rectangularly shaped tab having one surface that abuts the friction pad to carry part of a shear load encountered during a braking application when the brake pad engages an elevator rail.

21. (New) An elevator safety brake pad assembly consisting essentially of:

an elevator brake wedge, the elevator brake wedge having a rail-facing surface and a single shoulder, the shoulder located near a top surface of the brake wedge and extending normally away from the rail-facing surface, the shoulder for absorbing shear loads from an elevator brake pad, the shoulder having an abutment surface normal to the rail facing surface;

a brake pad backing plate, the brake pad backing plate having a pad-mounting surface for mounting an elevator safety brake pad and a wedge-mounting surface that engages the elevator brake wedge along the rail-facing surface, the brake pad backing plate having a portion in contact with the abutment surface of the shoulder; and

a carbon/metallic composite brake pad for engaging an elevator guide rail, the carbon/metallic composite brake pad being mounted to the backing plate and comprising a sliding surface for engaging an elevator guide rail, the sliding surface having a burnished finish.